

Appln. No. 09/744,654
Amdt. dated February 10, 2006
Reply to Office action of July 28, 2005

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-122 (Cancelled)

123 (Currently Amended). A method for the preparation of a cell composition consisting essentially of human hematopoietic CD38^{-/low} CXCR4⁺ stem cells capable of migrating in response to stromal-derived factor 1 (SDF-1), said hematopoietic CD38^{-/low} CXCR4⁺ stem cells having the capacity of migrating to, and of engraftment and repopulation of, the bone marrow in a host, comprising:

stimulating CD38^{-/low} CXCR4^{-/low} stem cells for up to five days with a suitable agent capable of converting CD38^{-/low} CXCR4^{-/low} into CD38^{-/low} CXCR4⁺ stem cells, thus converting the CD38^{-/low} CXCR4^{-/low} into CD38^{-/low} CXCR4⁺ stem cells, and wherein said suitable agent is selected from the group consisting of a lectin, a cytokine, at least one type of mammalian stromal cells, and mixtures thereof, ~~said cytokines and stromal cells being cytokines and stromal cells involved in a process of maintenance, expansion, development, or combinations thereof, of stem cells~~ said agent being capable of converting CD38^{-/low} CXCR4^{-/low} into CD38^{-/low} CXCR4⁺ stem cells, and

sorting out those CD38^{-/low} CXCR4⁺ stem cells that migrate in response to SDF-1.

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124 (Previously Presented). The method according to claim 123, wherein the $CD38^{-/low} CXCR4^{-/low}$ stem cells are stimulated with said suitable agent for 1-2 days.

125 (Currently Amended). A method for increasing ~~the~~ a population of hematopoietic $CXCR4^{+}$ stem cells for use in clinical transplantation, ~~which comprises comprising:~~

_____ up-regulating surface $CXCR4$ expression of
~~hematopoietic stem cells and sorting out those $CXCR4^{+}$ stem~~
~~cells that migrate in response to stromal derived factor (SDF~~
~~1), wherein said up-regulation is carried out by stimulation~~
~~of a cellular population comprising hematopoietic $CXCR4^{+}$ and~~
 ~~$CXCR4^{-/low}$ stem cells that have the potential to express $CXCR4$~~
~~on the cell surface, with a suitable agent, thus converting~~
~~the $CXCR4^{-/low}$ into $CXCR4^{+}$ cells, and sorting out those $CXCR4^{+}$~~
~~stem cells that migrate in response to SDF 1, wherein the~~
 ~~$CXCR4^{-/low}$ stem cells are stimulated for up to five days with a~~
~~suitable agent capable of converting $CXCR4^{-/low}$ into $CXCR4^{+}$ stem~~
~~cells, thus converting the $CXCR4^{-/low}$ into $CD38^{-/low} CXCR4^{+}$ stem~~
~~cells, and wherein said suitable agent is selected from the~~
~~group consisting of a lectin, a cytokine, at least one type of~~
~~mammalian stromal cells, and mixtures thereof, said cytokines~~
~~and stromal cells being cytokines and stromal cells involved~~
~~in a process of maintenance, expansion, development, or~~
~~combinations thereof, of stem cells~~
agent being capable of
increasing $CXCR^{+}$ surface expression on hematopoietic stem
cells; and

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sorting out those CXCR4⁺ stem cells that migrate in response to SDF-1.

126 (Previously Presented). The method according to claim 125, wherein the CXCR4^{-/low} stem cells are stimulated with said suitable agent for 1-2 days.

127 (Cancelled)

128 (Previously Presented). A method in accordance with claim 123, wherein said suitable agent is selected from the group consisting of SCF, IL-1, IL-6, IL-11, GM-CSF, and mixtures thereof.

129 (Previously Presented). The method according to claim 123, wherein said suitable agent is a member selected from the group consisting of SCF and a mixture of SCF and IL-6.

130 (Previously Presented). A method in accordance with claim 125, wherein said suitable agent is selected from the group consisting of SCF, IL-1, IL-6, IL-11, GM-CSF, and mixtures thereof.

131 (Previously Presented). The method according to claim 125, wherein said suitable agent is a member selected from the group consisting of SCF and a mixture of SCF and IL-6.